

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P309079

Luminaire Tested: **22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-3500K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

Test Information

Test Method: LM-79-08
Report Number: P309079
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-23)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 22FCZ2-39HE-UNV-L82765-S-CP187-W2A-U-3500K
Description: 2'X2' TROFFER LED MODULE, SMOOTH LENS, 0.187" POLYCARB SHEET
Light Source: (168) 3000K TUNABLE CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER
Luminaire Equipment:

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3419.0 lumens
Efficiency: N/A
Efficacy: 104.9 lumens/watt
Spacing Criteria (0/90/45): 1.18 / 1.26 / 1.34
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

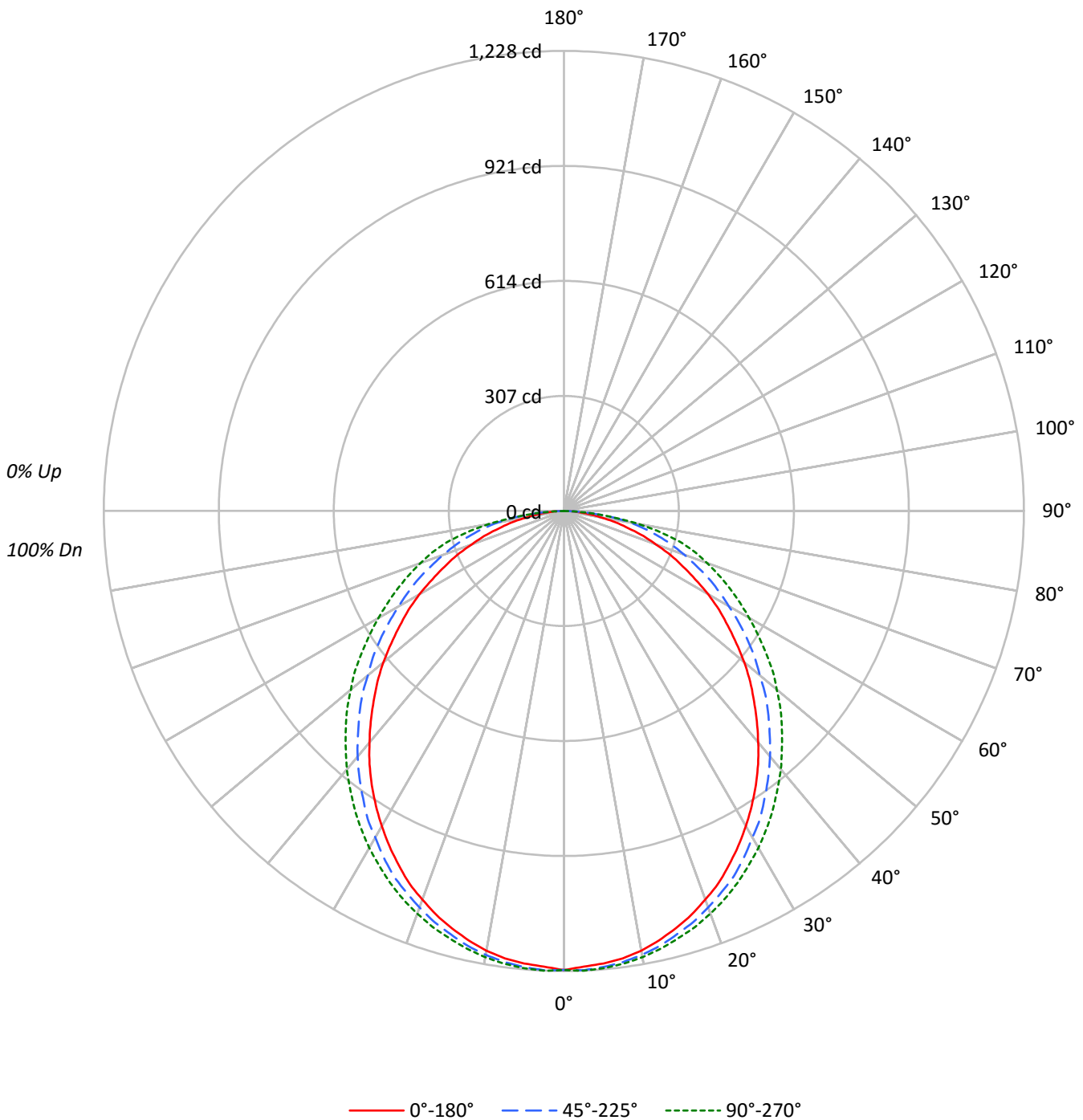
Input Watts (W): 32.6
Input Voltage (V): NR
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	94	97	94	91	93	90	88	89	87	85	83
2	98	90	83	77	96	88	82	76	84	79	74	81	77	73	78	74	71	69
3	90	79	71	64	87	77	70	63	74	68	62	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	61	56	52	49
5	75	62	53	47	73	61	53	46	59	52	46	57	51	45	55	50	45	43
6	70	56	47	41	68	55	47	41	53	46	40	52	45	40	50	44	39	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	33
8	60	47	38	32	59	46	38	32	45	37	32	43	37	32	42	36	31	30
9	56	43	35	29	55	42	34	29	41	34	29	40	33	29	39	33	28	27
10	53	40	32	26	51	39	31	26	38	31	26	37	31	26	36	30	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3297	3297	3297
5°	3275	3301	3309
10°	3256	3287	3304
15°	3213	3258	3289
20°	3161	3225	3275
25°	3098	3192	3254
30°	3019	3128	3227
35°	2935	3071	3197
40°	2836	3009	3166
45°	2732	2938	3132
50°	2631	2858	3105
55°	2507	2807	3083
60°	2396	2739	3074
65°	2234	2722	3108
70°	2058	2699	3201
75°	1858	2737	3367
80°	1607	2819	3164
85°	1331	2365	2365



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.9	3.4
10°-20°	329.7	9.6
20°-30°	493.3	14.4
30°-40°	584.2	17.1
40°-50°	595.4	17.4
50°-60°	533.6	15.6
60°-70°	417.8	12.2
70°-80°	269.4	7.9
80°-90°	79.6	2.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	938.9	27.5
0°-40°	1523.1	44.5
0°-60°	2652.2	77.6
0°-90°	3419.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3419.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1225	1225	1225	1225	1225	
5°	1212	1216	1222	1224	1225	115
15°	1153	1160	1169	1179	1180	325
25°	1043	1053	1075	1090	1096	480
35°	893	904	935	964	973	558
45°	718	734	772	812	823	554
55°	534	552	598	640	657	479
65°	351	372	428	469	488	349
75°	179	206	263	308	324	192
85°	43	59	77	77	77	51
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1225.1	1225.1	1225.1	1225.1	1225.1
2.5°	1217.2	1220.3	1226.7	1228.3	1228.3
5°	1212.4	1215.6	1221.9	1223.5	1225.1
7.5°	1204.4	1206.0	1214.0	1217.2	1218.8
10°	1191.6	1194.8	1202.8	1207.6	1209.2
12.5°	1174.1	1178.9	1188.4	1194.8	1196.4
15°	1153.3	1159.7	1169.3	1178.9	1180.5
17.5°	1131.0	1137.4	1150.2	1161.3	1164.5
20°	1103.9	1111.9	1126.2	1139.0	1143.8
22.5°	1076.8	1083.2	1100.7	1116.7	1121.4
25°	1043.3	1052.8	1075.2	1089.5	1095.9
27.5°	1008.2	1019.4	1041.7	1060.8	1067.2
30°	971.5	982.7	1006.6	1030.5	1038.5
32.5°	933.2	946.0	974.7	998.6	1006.6
35°	893.3	904.5	934.8	963.5	973.1
37.5°	851.9	861.4	896.5	926.8	936.4
40°	807.2	819.9	856.6	891.7	901.3
42.5°	762.5	776.9	813.6	851.9	861.4
45°	717.9	733.8	772.1	812.0	823.1
47.5°	674.8	687.5	730.6	768.9	784.9
50°	628.5	641.3	682.8	725.8	741.8
52.5°	580.7	598.2	642.9	684.4	703.5
55°	534.4	551.9	598.2	639.7	657.2
57.5°	491.3	505.7	553.5	596.6	614.2
60°	445.1	457.8	508.9	555.1	571.1
62.5°	395.6	414.8	467.4	510.5	529.6
65°	350.9	371.7	427.5	469.0	488.1
67.5°	309.5	328.6	382.9	427.5	448.3
70°	261.6	287.1	343.0	387.6	406.8
72.5°	223.3	245.7	303.1	347.8	368.5
75°	178.7	205.8	263.2	307.9	323.8
77.5°	142.0	169.1	223.3	258.4	266.4
80°	103.7	130.8	181.9	199.4	204.2
82.5°	70.2	95.7	130.8	135.6	137.2
85°	43.1	59.0	76.6	76.6	76.6
87.5°	20.7	23.9	27.1	25.5	25.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)